

UNITED STATES DISTRICT COURT  
SOUTHERN DISTRICT OF NEW YORK

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UNITED STATES OF AMERICA, :

-against- :

SEAN MCCARTHY, :

Defendant. :

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09 Cr. 1136 (WHP)

MEMORANDUM & ORDER

WILLIAM H. PAULEY III, United States District Judge:

On February 19, 2010, Defendant Sean McCarthy pled guilty to conspiracy to distribute and possess with the intent to distribute 37,120 grams of MDMA, commonly known as “Ecstasy,” in violation of 21 U.S.C. § 841. McCarthy argues that this Court should depart from the United States Sentencing Commission’s (the “Commission”) MDMA Sentencing Guidelines (the “Guidelines”) asserting that the Commission’s analysis was flawed and has been undermined by intervening scientific developments. On December 6 and 7, 2010, this Court held an evidentiary hearing on these issues.<sup>1</sup> For the following reasons, this Court finds that a 500:1 MDMA-to-marijuana equivalency would give rise to a sentence that is greater than necessary to serve the objectives of sentencing. Accordingly, this Court adopts a marijuana equivalency of 200 grams for MDMA.

### BACKGROUND

Prior to 2001, the Guidelines held that one gram of MDMA was equivalent to 35 grams of marijuana. United States Sentencing Commission, Report to Congress: MDMA Drug

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<sup>1</sup> This Court heard testimony from four expert witnesses: Drs. Helen Curran and John Halpern for the Defendant, and Drs. Andrew Parrott and Glen Hanson for the Government.

Offenses, Explanation of Recent Guideline Amendments (“Ecstasy Report”) 6 (2001). In 2000, however, Congress passed the Ecstasy Anti-Proliferation Act, which directed the Commission to review and increase penalties for any offense relating to the manufacture and trafficking of MDMA, and required the Commission to submit a report on the resulting amendments to Congress. Pub. L. No. 106-310, 114 Stat. 1101, 1241-45.

The Ecstasy Report determined that penalties for MDMA offenses should be more severe than for powder cocaine, which has a 200:1 marijuana equivalency, but less severe than for heroin, which has a 1000:1 marijuana equivalency. Ecstasy Report 5. The Commission decided on less severe sentences for MDMA offenses than for heroin because:

(1) there are many more heroin cases in the federal system than MDMA cases, (2) heroin is more addictive than MDMA, (3) heroin has many more emergency room visits and deaths associated with its use than MDMA because, unlike MDMA which generally is taken orally, heroin is injected, (4) heroin has more violence associated with both its users and distribution system than MDMA, in part because MDMA users typically do not resort to violence to support their drug use, and (5) heroin causes greater secondary health effects, such as the spread of HIV and hepatitis, because it is injected.

Ecstasy Report 5. The Commission offered three reasons for imposing higher sentences for MDMA offenses than for powder cocaine: “(1) unlike MDMA, powder cocaine is not neurotoxic, (2) powder cocaine is not aggressively marketed to youth in the same manner as MDMA, and (3) powder cocaine is only a stimulant, but MDMA acts as both a stimulant and a hallucinogen.” Ecstasy Report 5. Ultimately, the Commission established an MDMA-to-marijuana equivalency of 500 grams. Ecstasy Report 5.

## DISCUSSION

### I. Applicable Law

The Sentencing Guidelines are “advisory.” United States v. Booker, 543 U.S. 220, 244-45 (2005); see also United States v. Dorvee, 616 F.3d 174, 183 (2d Cir. 2010). Accordingly, “a district court may vary from the Guidelines range based solely on a policy disagreement with the Guidelines, even where that disagreement applies to a wide class of offenders or offenses.” Dorvee, 550 F.3d at 191; see also Kimbrough v. United States, 552 U.S. 85, 91 (2007) (district court did not abuse its discretion in issuing a non-Guidelines sentence for a crack cocaine offense, based on lack of empirical basis for 100:1 sentencing disparity between crack cocaine and powder cocaine sentences). A court is free to determine that the “Guidelines are not based on empirical data and national experience, and hence ‘do not exemplify the Commission’s exercise of its characteristic institutional role.’” United States v. Cavera, 550 F.3d 180, 192 (2d Cir. 2008) (quoting Kimbrough, 552 U.S. at 109). This determination may be based on a finding that the Guidelines “rest[] on assumptions about . . . relative harmfulness . . . that more recent research and data no longer support.” Kimbrough, 552 U.S. at 98.

### II. Empirical Basis of MDMA Guidelines

#### A. Continuing Validity of the Commission’s Findings

McCarthy challenges the MDMA Guidelines on the grounds that recent research undercuts the Commission’s finding that MDMA is neurotoxic. The Ecstasy Report noted that a 1998 “brain scan comparison of MDMA users with non-users indicated the users had significantly reduced number of serotonin transporters throughout the brain.” Ecstasy Report 9 (citing U.D. McCann et al., Positron Emission Tomographic Evidence of Toxic Effect of

MDMA (“Ecstasy”) on Brain Serotonin Neurons in Human Beings (the “McCann Study”), 352 *Lancet* 1433 (1998)). Both parties’ experts agreed that the best and most recent study of MDMA’s effects on serotonin transporters found a reduction in serotonin transporters, but only in the cerebral cortex and hippocampus. See S.J. Kisch et al., Decreased Cerebral Cortical Serotonin Transporter Binding in Ecstasy Users: A Positron Emission Tomography/[<sup>11</sup>C]DASB and Structural Brain Imaging Study (the “Kisch Study”), 133 *Brain* 1779 (2010). Importantly, the Kisch Study expressly noted that it “did not find a global, massive reduction of brain [serotonin transporter] binding as reported in the [McCann study].” Kisch at 1791; (see also Tr. 257-58 (Parrott) (discussing the differences between the McCann and Kisch studies).)

While both parties rely on the Kisch Study, its import is equivocal: the Kisch Study found less depletion in serotonin transporters than the McCann Study, but nevertheless confirmed that depletion occurs. The variation in findings between the two studies may be explained by differences in the level of MDMA use among the test subjects. (Tr. 257-58 (Parrott).) Recent studies on the effect of MDMA on cognitive functioning have also found that MDMA use can cause statistically significant (although relatively minor) impairment in memory, providing further support for the Commission’s findings. (See Tr. 197 (Parrott), 263 (Parrott).) Moreover, while early MDMA studies have been criticized because they failed to consider confounding variables like polydrug use (Tr. 119 (Halpern)), the Kisch Study took those variables into account (Tr. 180 (Parrott)). And in any case, the overwhelming majority of MDMA users are polydrug users. (Tr. 331 (Hanson).) Thus, the effects of MDMA in conjunction with other drugs remains a highly relevant—and arguably more practical—consideration when determining the harm caused by MDMA. (Tr. 331-32 (Hanson).)

Accordingly, this Court cannot conclude that the Commission's findings on MDMA's neurotoxicity have been so compromised by subsequent research that they are no longer true.

Nor can this Court discount the Commission's finding that MDMA is uniquely marketed to—and prevalent within—the younger population. Prevalence of a drug among the nation's youth, a particularly vulnerable segment of the population, provides strong support for higher sentences. This Court was not presented with any evidence contradicting this finding. Although McCarthy correctly notes that MDMA use has declined since its apex in the late 1990s and early 2000s, it is again on the rise. See National Institute of Health, Monitoring the Future: National Results on Adolescent Drug Use, Overview of Key Findings 46 (2008).

However, the Commission's statement that cocaine is only a stimulant, while MDMA is both a stimulant and a hallucinogen, is without factual support and largely irrelevant. Experts for both parties testified that MDMA is not properly characterized as a "hallucinogen." (Tr. 98 (Curran), 149 (Halpern), 289-90 (Parrott).) And in any case, comparing pharmacological properties using broad descriptors like "stimulant" and "hallucinogen" says little—if anything—about the relative harm posed by a drug. (See Tr. 128-29 (Halpern) ("[The Ecstasy Report] almost read[s] like this was supposed to be some sort of arithmetic; cocaine gets a score of one [because] it's a stimulant and then MDMA gets a score of two because it's a stimulant and a hallucinogen. . . . [T]hat's not using good science."))

#### B. Strength of the Commission's Analysis

There is no question that MDMA use has several significant negative impacts. Yet the Commission's analysis of these impacts—particularly as compared to cocaine—was selective and incomplete. Rather than comparing the full range of health effects of MDMA and cocaine, for example, the Commission focused only on a single health effect: neurotoxicity. In

doing so, the Commission ignored several effects of cocaine that render it significantly more harmful than MDMA.

For example, cocaine is responsible for far more emergency room visits per year than MDMA. (See Def.'s Third Supp. Sentencing Mem. Ex. 2: U.S. Department of Health and Human Services, Drug Abuse Warning Network 2007: National Estimates of Drug-Related Emergency Department Visits ("DAWN") 22 (2010) (finding that cocaine abuse was responsible for 553,530 emergency room visits, or 29.4% of drug- or alcohol-related emergency room visits in 2007, while MDMA was responsible for 12,748 visits, or 0.7%); (see also Tr. 125-26 (Halpern), 373-74 (Hanson).) Even controlling for the fact that cocaine is more commonly used than MDMA, cocaine is still approximately 16 times more likely to lead to hospitalization. (Compare DAWN 22, with Def.'s Third Supp. Sentencing Mem. Ex. 3: U.S. Department of Health and Human Services, Results from the 2007 National Survey on Drug Use and Health 252 (2008) (finding that 5,738,000 people over the age of 12 used cocaine in 2007, while 2,132,000 people used MDMA); (see also Tr. 126 (Halpern).) As the Government's witnesses acknowledged, MDMA fatalities are "rare." (Tr. 293 (Parrott); see also Tr. 374 (Hanson).)

Cocaine is also far more addictive than MDMA. (Tr. 230 (Parrott), 291 (Parrott), 339 (Hanson).) Indeed, MDMA is "one of the least addictive drugs." (Tr. 212 (Parrott), 232 (Parrott).) Moreover, cocaine use causes several adverse health effects not implicated by MDMA use—such as "cardiovascular effects, including disturbances in heart rhythm and heart attacks; respiratory effects, such as chest pain and respiratory failure; [and] neurological effects, including strokes [and] seizures." United States Sentencing Commission, Report to Congress: Cocaine and Federal Sentencing Policy ("Cocaine Report") 65 (2007); (see also Tr. 128 (Halpern) ("[C]ocaine users after many years of abuse and heavy use, run the risk of heart attack,

of stroke, of death from that, and many other problems. . . . We can do a standard CAT scan of the brain that can show evidence of strokes in the brain from their repeated longstanding cocaine use.”.) In addition, MDMA is not associated with significant secondary health effects such as, for example, the spread of HIV through needles. Ecstasy Report 19. In this regard, MDMA and cocaine are similar.

Moreover, in contrast to MDMA, cocaine trafficking is associated with substantial violence. Ecstasy Report 19; see also Cocaine Report 86. And finally, there are far more cocaine-related cases in the federal criminal justice system than MDMA-related cases. See U.S. Department of Justice, Bureau of Justice Statistics, 2008 Statistical Tables 9 (2008), available at <http://bjs.ojp.usdoj.gov/content/pub/html/fjsst/2008/fjs08st.pdf>.

The foregoing illustrates that the Commission’s analysis focused on the few ways in which MDMA is more harmful than cocaine, while disregarding several significant factors suggesting that it is in fact less harmful. Such opportunistic rummaging is particularly stark when viewed against the Commission’s rationale for adopting lighter sentences for MDMA than for heroin. In that context, the Commission found that five factors weighed in favor of lighter sentences for MDMA: (1) number of cases in the federal criminal justice system, (2) addiction potential, (3) emergency room visits, (4) violence associated with use and distribution, and (5) secondary health effects. As discussed above, these factors—with the exception of secondary health effects, which are similar for MDMA and cocaine—also weigh in favor of lower sentences for MDMA than for cocaine. Yet they appear to have played no role in the Commission’s MDMA Guidelines determination. See Ecstasy Report 5. The Commission’s selective analysis is incompatible with the goal of uniform sentencing based on empirical data.

This Court is mindful of the harm inflicted by drug abuse and trafficking. The distribution of illegal drugs is a serious crime warranting significant penalties. Yet this Court must also consider “the need to avoid unwarranted sentence disparities among defendants with similar records who have been found guilty of similar conduct.” 18 U.S.C. § 3553. This fundamental principle is violated when disparate drug equivalencies are established for similar narcotics based on an incomplete analysis. See Kimbrough, 552 U.S. at 98. Ultimately, consistent with the overwhelming weight of the evidence, no witness testified that MDMA was more harmful than cocaine. (Tr. 40 (Curran), 44 (Curran), 127-28 (Halpern), 231-32 (Parrott), 343 (Hanson).)

McCarthy suggests that this Court should sentence him based on a ratio of 1:1 or, alternatively, on the pre-2001 ratio of 35:1. However, he has not presented sufficient evidence that the harm posed by MDMA is equal to that of marijuana. Nor does this Court believe that the record supports a ratio of 35:1. Although McCarthy points to several aspects in which MDMA is less harmful than cocaine, MDMA also presents its own unique dangers. This Court defers to the Commission’s determination, supported by express Congressional findings, that the pre-2001 MDMA Guidelines were too low. Accordingly, this Court adopts an MDMA-to-marijuana equivalency of 200:1, equal to that of cocaine.<sup>2</sup> See Spears v. United States, 129 S. Ct. 840, 843 (2009) (“[T]he ability to reduce a mine-run defendant’s sentence [under Kimbrough and Booker] necessarily permits adoption of a replacement ratio.”).

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<sup>2</sup> As noted, much of the evidence indicates that MDMA is less harmful than cocaine, suggesting that an even lower equivalency may be appropriate given a sufficient factual foundation in a later case.

CONCLUSION

For the foregoing reasons, this Court adopts an MDMA-to-marijuana equivalency of 200:1.

Dated: May 19, 2011  
New York, New York

SO ORDERED:

  
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WILLIAM H. PAULEY III  
U.S.D.J.

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